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Education – A Key Concept for E-Administration

Catalin Vrabie[a]*

[a]*Faculty of Public Administration, National University of Political Studies and Public Administration Street Povernei, no. 6, sector 1, Code: 010643, Bucharest, Romania*

Abstract

The paper aims to investigate the link between the actual level of e-administration at the county level in Romania and the educational system at the same level (I refer here especially to the education in the field of IT&C) in order to verify if there is a connection between those data. I will start from a previous research in which I radiographed the Romanian e-administration (January 2014), based on the Mark Holzer study a1qbout Digital Governance in Municipalities Worldwide. I will correlate it with data collected from all the Romanian ECDL centers (European Computer Driving Licence) knowing the fact that ECDL is an engine for what is called "intelligent citizen" (Stoica 2009). For having an accurate image on this topic I will look onto every county in Romania (41 in number) analyzing the official Web sites of municipalities as well as those from ECDL centers. The results I count on are a strong connection between education (on the field of IT&C) and a good e-administration, suggesting by this some new investments in the field of education. It is understood that the existence of Web platforms very well maintained doesn't imply that they're also used by the citizens or the business society. The new methods of administration don't need only innovative solutions but also "intelligent citizens". The value of this paper is the comparison itself. There are a lot of studies in Romania about the education, about the local administration but rare those studies are connected. More and more researchers stated that "education should come first", so I suggest that before investing in IT platforms and so on, to invest firstly in education. It is not only the personnel of public administration that need to benefit from IT&C education, but also those to whom these platforms address (the citizens).

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* Catalin VRABIE Tel.: +40.723.689.314.
E-mail address: cataloi@yahoo.com

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1. Introduction

About 20 years have passed since the computer has been introduced in the education system. If, at the beginning, the computer was considered a work instrument in so called IT laboratories, where pupils learned how to deal with them, in the last years, a real conceptual revolution was generated in the education sector, the computer become a study environment for almost all the disciplines in school. The step made from users – specialists in IT – to users as the term is perceived today, was performed slowly, without notice. After that, or maybe in the same time, the Internet has exploded, transforming itself into a global network. All the mediums, in which man is present, need a computer. It has begun with commerce, education, public administration, to extend itself to social networks (e.g. Facebook, Instagram, Google+).

The lack of education will certainly limit the access to those new technologies. Each of us must have an IT&C education in order to be able to live in the 21st century. The critical point has been reached even from the end of the last century, the informational society surpassing the status of forecast to a state of facts for the present time (Galdwell, 2002).

The task of education for using new technologies isn't meant for demonstrating that these have superior results in a competition with other types of systems - this fact is already demonstrated (Carr, 2011), but for replacing a part of the present structures with new ones which register higher performances, for meeting the inherent changes which take place in our culture and civilization (I refer here especially to the classic methods of governance versus the modern ones of which I spoke in the pages above).

2. Computer science education in Romania

2.1. ECDL coverage

What is ECDL (European Computer Driving Licence)? The ECDL programme contains applications of which the development of e-Government in Romania (and not only) depends. The licence obtained attests the fact that its owner has promoted the 7 modules: a theoretical test which evaluates the IT basic concepts and 6 practical tests which evaluate basic competences of its owner in using a personal computer and in using the applications met in current activities (computer using and file organizing, text processing, table calculus, data bases, presentations, information and communication).

It is understood that the IT&C field will make available instruments of universal utility, for this a new way of thinking and behaving being necessary which will allow the public institutions to meet any type of request. Each civil servant will have to master competences in this field, a matter which was already covered legislatively through the Romanian Governmental Decision no. 1007/2001 in which it is mentioned, related to the preparation of civil servants as users of informational technologies: "The courses for initiating and perfecting IT skills will follow the design of the "European Computer Driving Licence" (ECDL) which was adopted as a standard by the governments of multiple countries [...] ECDL was proposed to all member states of the EU as a standard certificate for basic qualification in using the computer. [...] The courses will consist mostly in practice on the computer and will necessity adequate structures on the entire territory of the country. Centres consisting in laboratories for ECDL instructing and certificating will be founded in all the municipalities which are county residence and in many high schools, as well as in several university departments. In the first stage of this programme about 250.000 public employees will be involved."

This Governmental Decision was supplemented by the Order no. 252/2003 from the Minister of Public Administration for the approval of the Methodological Rules regarding the instruction and specialization of the civil servants in the field of IT, which requested the use of the ECDL standard at the level of primary training.

The Ministry for Education, Research and Innovation follows through its programmes the use on a large scale of information technology in the process of education, constantly initiating programmes of supplying IT instruments for education institutions, correlated with the introduction of assisted instruction on the computer.

According to the Government Decision no. 97/2009 it is introduced within the exams for Bachelor the evaluation of digital competences. "The results of the evaluation are expressed through the level of competence in relation to the European standards acknowledged in the field."

The Government Decision no. 5794 / 29.10.2009 stipulates at Art. 2 that "There are recognized and they're amounted to the test of digital competences – test D) from the Bachelor examination, the results obtained at the ECDL exams, finalised with the ECDL Start or the ECDL Complete certificate."

Based on that ECDL ROMANIA has created a national network of testing and accreditation centres, which is still in full development, aiming at covering all the counties of the country and counting up to this moment over 500 centres. Among these centres we can find education institutions (universities, high schools, and schools), training centres for administration, and professional training centres from all the big cities of Romania.

We can observe this way, how dynamic this field is, even from educational perspectives.

Here we counted how many ECDL centres are in each county and we compared it to the number of inhabitants of the county. We can first observe that besides Salaj (Zalau), all the counties from Romania have at least on centre of this kind (ECDL Romania has a more dynamic evolution compared to the big universities).

Table 1. ECDL coverage in Romania

Grade	Counties	%	Details
Very good	8	19,51%	less than 100.000 inhabitants / centre
Good	6	14,63%	between 100.000 and 150.000 inhabitants / centre
Satisfactory	11	26,82%	between 150.000 and 200.000 inhabitants / centre
Low	4	9,75%	between 200.000 and 250.000 inhabitants / centre
Very low	12	29,26%	more than 250.000 inhabitants / centre

2.2. Univeristies coverage

Regardless the university's profile, they prepare young people for them to latter either fill in the place of civil servants (e.g. the public administration faculty, social sciences) or to interact with the public administration (nobody "gets away" with this). This is the reason why it is important for them to know how to use the computer as soon as they finish their studies. Sadly, the older generation doesn't have the same opportunities. It is important that at least from now on steps will be made in order that this digital divide, between the young and older population, will be eliminated. In the present moment all of those 107 universities from Romania have in their educational programme at least one IT course, and more than one course assisted by computer.

Not all of the Romanian counties have a university centre, but only 22. The rest of the colours are given by the ratio between the population of the county and the number of universities from the county. The smaller the ratio, the bigger was the rating received (I took as landmark the average value – 201.723 inhabitants / university).

Table 2. Universities coverage in Romania

Grade	Counties	%	Details
Very good	6	14,63%	less than 100.000 inhabitants / centre
Good	2	4,87%	between 100.000 and 150.000 inhabitants / centre
Satisfactory	2	4,87%	between 150.000 and 200.000 inhabitants / centre
Low	8	19,51%	between 200.000 and 250.000 inhabitants / centre
Very low	23	56,09%	more than 250.000 inhabitants / centre

Not all the time the students choose universities placed in the city they live in (cases are encountered where students leave for a very far university even if they have in their vicinity a big academic centre).

Universities, as we all know, are most of them educational colossus that slowly adapt to the environment (Velea, 2009). It would be very good if each of these could create branches in the counties uncovered. Some have made it (the date discussed here are not included in the study), but most of them didn't even try. The speed to which they respond to the educational market requests is low (Luca, 2009). The success is given by on-line classes or distance

education them most of them provide to potential students. In this case more and more people have access to education (and I don't mean only IT education).

If we report to the degree of computer use by students, it is most obvious that after the finishing of classes these will know how to use it (let's consider the fact that the students which follow on-line classes or a distance learning education programs, are forced, by the nature of the course, to use on-line education platforms).

In one of my older articles I have conducted a research in which I have showed through an empirical analysis that all young students from nowadays use the computer and the Internet. They are those who in the future will need these on-line governing platforms because otherwise they just don't understand the old "sitting in a raw" interaction, or the bureaucracy (Vrabie, 2009).

3. E-government at the municipal level in Romania

From those 103 municipalities only 102 (99,02%) had at the beginning of 2014, an active page on the Internet, from which – after the final results – 10 have obtained the grade *very good* (final points situated between 4,01 and 5,00), 33 *good* (points between 3,01 and 4,00), 46 *satisfactory* (points between 2,01 and 3,00), 12 *low* (points between 1,01 and 2,00) and 2, *very low* (points under 1,01). (Vrabie, 2014)

Table 3. The stage of eGov development in Romania

Grade	Municipalities	%	Counties	%
Very good	10	2,91	2	4,88%
Good	33	27,18	14	17,07%
Satisfactory	46	44,66	23	65,85%
Low	12	15,53	2	12,20%
Very low	2	9,71	0	0,00%

We can see this way that almost half of the Romanian municipalities of the country have a satisfactory Web page (information about which we can't say that it is satisfactory from the point of view of the citizen or the business environment) and a bit more than a third is good or very good.

Further, I made averages for each county showing the level of implementation of Web technologies from the municipalities of the analysed county.

We can see after the analysis of the counties (table 3.1) that the level of eGovernment development in Romania is mostly *satisfactory* – half of Romania's divisions have received this grade (points between 2.01 and 3.00), while only 2 obtained *very good:* Sibiu and Arad.

We must notice that none of the counties received the grade *very low*.

4. Conclusions. Is education the development engine for e-government?

I will present in the following paragraphs several reasons that I consider important for the developing of the educational component – in the first place – in order that an eGovernment implementation to be successful afterwards.

I will start with the connection between IT education and citizens, because they must understand the structure of an on-line government system in order to use it efficiently. If the citizen isn't aware of the fact that the Web application accessed by him through the Web site makes available elements that he needs, or doesn't trust it, then he will still go to the office, making this investment useless.

The importance for the civil servant: they should concentrate on the understanding of the technology's basic concepts. The civil servants aren't IT specialists, but they must know what to ask from the specialists. They are the ones that best understand the way of working of a public institution, not the IT engineers, not the programmers. The two work groups must have a common language when they work for developing a system of electronic governance.

Another relevant element is the importance for public managers and for others that hold key positions in the public system. They must understand the role of the education and the computer; they must also understand the fact that the future civil servants must have IT competences. In the present time, in Romania, for obtaining a place in a public institution an exam is organised which is based especially on the juridical part of the activity. This is not sufficient and it must be adapted to the new communication technologies for a capable team to be created for working efficiently.

In 2003 (when e-Government started to be a "talked about" subject in Romania, with the introduction of the e-guvernare.ro project) we can presume that Romania (all its counties) would have received the rating very weak. Today, thanks to the investment in these systems, things are looking better. If we look at the table 3.1, we can see a completely different situation, which promises a good evolution of things.

The maps reveals the fact that IT education is responsible for the development of eGovernment. Further we can consider other cases like that of Mures county, which received the rating satisfying to all the 3 studies. With very few exceptions (Iasi, Cluj, Salaj counties) the data are very close, which means that education in the field is directly responsible of the development of eGovernment at local level.

Obviously, the two situations analysed worked together, getting to the situation presented in the paper, reason for which I would propose in the future partnerships between ECDL Romania and the Ministry for Education, Research, Youth and Sports or even with the Ministry for Administration and Internal Affairs.

As it is said, Evolution will be served, one way or another, and so why shouldn't it be faster and with fewer side effects.

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